

17 KHIMCHENKO, N. V.

PHASE I BOOK EXPLOITATION SOV/5488

Moscow. Vsesoyuzny nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya.

Materialy v khimicheskoy mashinostroyeni (Materials in Chemical Machine Building) Moscow, Informatsionno-izdatel'skiy otdel, 1960. 143 p. (Series: Itsi trudy, vyp. 34) 3,000 copies printed.

Sponsoring Agency: Gosudarstvenny komitet Soversha Ministrov SSSR po avtomatizatsii i mashinostroyeniyu and Vsesoyuzny nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya NIIKHIMMASH.

Ed. (Title page): V. K. Fedorov, Candidate of Technical Sciences; Editorial Council: Chairman: V. B. Nikolayev, Deputy Chairman: V. M. Vinogradov, Candidate of Technical Sciences; B. M. Kozlovskiy, V. G. Popovskiy, I. K. Kozlovskiy, V. G. Popovskiy, and G. M. Yuzov.

Yuzov, G. M. Candidate of Technical Sciences and G. M. Yuzov, Candidate of Technical Sciences; Ed. V. I. Olukhov; Tech. Ed.: P. A. Vasiliev.

PURPOSE: This collection of articles is intended for technical personnel in chemical machine building and other branches of the machine and instrument industry.

CONTENTS: The collection deals with the results of investigations on the mechanical, corrosive, and engineering qualities of certain alloys. Also discussed are heat-treatment regimes, the phase composition of stainless steels, methods of checking products, and new designs of apparatus used in checking. References accompany each article.

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Materials in Chemical (Cont.)

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- Zemilevskiy, Y. L. [Engineer], and M. S. Anilov [Academician of the Academy of Sciences of the Belorussian SSR]. Ponderomotive Magnetic Method of Determining the α -Phase Content in Austenitic Steel [Equipment was manufactured by Khimfizich; Technician V. M. Malinin participated in working out the electrical circuit for the α -phasometer] 112
- Prisachenko, M. V. [Candidate of Technical Sciences], and V. M. Prishod'ko [Engineer]. Wide-Range Ultrasonic Analyzer for Checking the Structure of Metals [Technicians V. M. Muragayev and M. M. Maternanskiy participated in the production of the attachment] 120
- Prisachenko, M. V. and V. M. Prishod'ko. Use of the Wide-Range Ultrasonic Analyzer in Investigating the Structure of Steel and Cast Iron 130
- Prisachenko, M. V.; V. M. Prishod'ko, and V. P. Gorkh [Engineer]. Checking the Metal Quality of Large Shafts under Factory Conditions 137

AVAILABLE: Library of Congress

S/887/61/000/000/065/069
E202/E155

AUTHORS: Khimchenko N.V., and Prikhod'ko V.N.

TITLE: Method of determining the depth of intercrystallite corrosion.

A.c. no.117892, cl.42, 46₀₆ (z. no.602602 of June 24, 1958).

SOURCE: Sbornik izobreteniy; ul'trazvuk i yego primeneniye, Kom. po delam izobr. i otkrytiy. Moscow, Tsentr. byuro tekhn. inform., 1961, 94.

TEXT: The method is used in corrosion tests, and its main feature consists in determining the depth of metal corrosion according to the degree of scattering of the ultrasonic oscillations which in turn is calculated from the ratio of the amplitudes of the echo signals before and after corrosion tests. This ratio and the depth of the inter-crystallite corrosion are connected by a unique relation which is determined by a metallographic method. The tests are carried out on standard metal samples which during the corrosion tests are subjected to boiling in a standard solution. Using the relation between the depth of corrosion and the echo signals, it

Card 1/2

Method of determining the depth...

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E202/E155

is possible to determine comparatively quickly the tendency of the metals under test toward inter-crystallite corrosion. The experiments have established, for instance, that in stainless steel an ultrasonic frequency of 10 Mc/s serves to determine the extent of penetration of the inter-crystallite corrosion to a depth of 30 - 40 μ .

[Abstracter's note: Complete translation.]

Card 2/2

NAZAROV, S.T.; SHRAYBER, D.S.; YEREMIN, N.I.; ROZHDESTVENSKIY, S.M.;
KHIMCHENKO, N.V.; LESNICHENKO, I.I., red. izd-va; UVAROVA, A.F.,
tekhn. red.; SOKOLOVA, T.F., tekhn. red.

[Modern methods of nondestructive testing] Sovremennye metody
kontrolia materialov bez razrusheniia. Pod red. S.T.Nazarova.
Moskva, Mashgiz, 1961. 285 p. (MIRA 15:7)

1. Moskovskiy dom nauchno-tekhnicheskoy propagandy im. F.E.
Dzerzhinskogo.

(Nondestructive testing)

SOKOLOV, V.S.; GORAZDOVSKIY, T.Ya., kand. tekhn. nauk, nauchnyy red.;
KHIMCHENKO, N.Y., kand. tekhn.nauk, nauchnyy red.; TATOCHENKO,
L.K., kand. tekhn. nauk, nauchnyy red.; IGLITSYN, I.L., red.
izd-va; LARIONOV, G.Ye., tekhn. red.

[Flaw detection in materials] Defektoskopiia materialov. Izd.2.,
perer. Moskva, Gos. energ. izd-vo, 1961. 326 p. (MIRA 15:3)
(Nondestructive testing)

KHIMCHENKO, N.V.; GOZAK, V.P.; SHEKHTMAN, A.G.

Ultrasonic flaw detection in high-strength cast iron. Lit.
proizv. no.8:9-13 lg '61. (MIRA 14:7)
(Cast iron—Testing)
(Ultrasonic testing)

KHIMCHENKO, N.V.

Ultrasonic structure control of high-strength iron castings. Lit.
proizv. no.6:30-31 Je '62. (MIRA 15:6)
(Cast iron—Testing) (Ultrasonic testing)

36629

S/184/62/000/003/003/004
D040/D113

18.8300

AUTHORS:

Khimchenko, N.V., Candidate of Technical Sciences, and Prikhod'ko, V.N., Engineer

TITLE:

Measuring intercrystalline corrosion by the eddy currents method

PERIODICAL:

Khimicheskoye mashinostroyeniye, no. 3, 1962, 35-37

TEXT:

A method and instrument are described by which the depth of intercrystalline corrosion on the metal surface can be determined using a coil supplied with alternating current and causing opposite eddy currents in the metal. The described instrument, TM-57 (TM-57) magnetic thickness meter developed by the Central Scientific Research Laboratory of Gosgortekhnadzor, comprises a 2 Mc oscillator, a tube voltmeter and a feed unit consisting of ferro-resonance and voltage stabilizers and a rectifier. The high-frequency field of the inductive pickup produces eddy currents in the metal surface. The current value depends on the metal conductivity, which in turn depends on the degree of intercrystalline corrosion. The opposite magnetic fields in the pickup and in the eddy currents result in a drop in inductive resistance at the pickup, which disturbs the

Card 1/2

Measuring intercrystalline ...

S/184/62/000/003/003/004
D040/D113

resonance and reduces the current in the pickup circuit. The current drop is measured by the tube voltmeter with a microammeter for dial indicator. The TM-57 has been tested on 1X18H9T (1Kh18N9T) steel specimens. Grain size, α -phase content, surface finish and other factors affected the readings. Grain size variations within 50μ did not cause any great errors in corrosion depth determination; at less than 0.4% α -phase content, the maximum error was 2.6%, after polishing and grinding it was about 2%, and in a rolled metal surface it reached 24.8%. The relative error depends on the upper limit of the set measurement range, and a calibrated curve with an upper limit of 40-50 μ is recommended for measuring initial corrosion depth (20-30 μ). The maximum relative error will then be 4-5%, which suffices for industrial measurements. There are 4 figures.

Card 2/2

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24.1900

31050
8/032/62/028/001/008/017
B108/B138

AUTHORS: Khimchenko, N. V., and Prikhod'ko, V. N.

TITLE: Ultrasonic detection of intercrystalline corrosion

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 1, 1962, 68-70

TEXT: The authors propose a method of estimating the extent of intercrystalline corrosion by an ultrasonic analyzer designed at the NIIKhimMASH (N. V. Khimchenko and V. N. Prikhod'ko. Zavodskaya laboratoriya, v. 25, no. 7, 836 (1959)). This device supplies longitudinal, transverse, and surface ultrasonic waves of 0.7-11.2 Mc/sec. The method is based on determination of the intercrystalline corrosion coefficients $k_1 = A_{h_n}/A_0$. A_{h_n} is the amplitude of the ultrasonic signal received from a sample, the subscript denoting depth of corrosion. Thus A_0 is the signal amplitude from an uncorroded specimen. These coefficients have to be determined for standard specimens with known depth of corrosion. The initial state of corrosion ($> 30 \mu$) can be detected by means of transverse, and the depth of corrosion by surface waves. Accuracy is sufficient for

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31850
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B108/B138

Ultrasonic detection of ...

laboratory requirements. There are 1 figure, 1 table, and 6 Soviet references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorskiy
institut khimicheskogo mashinostroyeniya (All-Union
Scientific Research and Design Institute of Chemical Machine
Building) 2

Card 2/2

L 63148-65 EWT(d)/EWT(m)/EWP(c)/EWP(k)/EWA(c)/EWP(h)/ETC(h)/EWP(b)/EWA(d)/EWP(l)/
T/EWP(v)/EWP(t) WA/PH/JD

ACCESSION NR: AP5015100

UR/0381/65/000/002/0047/0055

AUTHOR: Khimchenko, N. V.; Prilchod'ko, V. N.

TITLE: Equipment for ultrasonic structural analysis of metals and welded joints

SOURCE: Defektoskopiya, no. 2, 1965, 47-55

TOPIC TAGS: ultrasonic equipment, structural analysis

ABSTRACT: This article describes ultrasonic apparatus designed for structural analysis of metals developed both in the SSSR and abroad. An attenuation meter made by the German firm of Paul Kretz is used to evaluate ultrasonic vibrations in the range. Hans Ulrich Richter has patented an ultrasonic method of apparatus for measuring grain size. The Leningrad Electro-Technical Institute has developed a flaw detector (UZDS-19) used for detecting the elements of defects by an attenuator and the characteristics of the material of the material. A method for measuring the damping factor of ultrasonic oscillations in brass at frequencies of 1.0, 2.25, 5.0, 7.9 and 10.1 mc is described. Work has been done at the All-Union Institute of railroad transport in the development of equipment and methods for measuring the properties of materials in the on-

Card 1/2

L 63448-65

ACCESSION NR: AP5015100

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ented structure of hardened metal. New comparative methods of ultrasonic structural analysis of metals and experimental samples of devices with wide bands are described as well as industrial models of an ultrasonic wide range device (USAD-61) for quality control of welded compounds. Possible applications of these devices are listed. Orig. art. has: 7 figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorskiy institut
vysokogo mashinostroyeniya (All-Union Design Scientific Research Institute of
Heavy Machinery)

19Feb65

ENCL: 00

SUB CODE: MM, IE

NO REF SOV: 011

OTHER: 002

Card 2/2

L 46594-66 EWT(d)/EWT(m)/EWP(c)/EWP(v)/T/EWP(t)/ETI/EP(k)/EP(l) LIP(c) JD/HM
ACC NR: AP6012586 SOURCE CODE: UR/0314/66/000/004/0033/0036

AUTHOR: Bobrov, V. A. (Engineer); Khimchenko, N. V. (Candidate of technical sciences)

ORG: none*

TITLE: Nondestructive methods for the testing of chemical equipment made of two-layer metals

SOURCE: Khimicheskoye i neftyanoye mashinostroyeniye, no. 4, 1966, 33-36

TOPIC TAGS: ultrasonic flaw detector, metal test, flaw detection, *CHEMICAL PLANT EQUIPMENT*

ABSTRACT: One of the basic defects found in chemical equipment made of two-layer metals is the separation of the cladding layer from the base. The article discusses nondestructive methods for the testing of such equipment, surveys the available ultrasonic equipment, *describes the experience with ultrasound accumulated at the NIKhimmash, and outlines the procedure for color defectoscopy of two-layer metals by means of dyes developed at the same institute (N. V. Khimchenko, L. I. Podlesnaya, Author's certificate No.150690 dated

Card 1/2

UDC: 620.179:621.9-419.

L 46594-66

ACC NR: AP6012586

March 8, 1962, Byulleten' izobreteniy, 1962, No.19). The authors recommend overall testing by ultrasound, followed by more detailed color control of suspected regions. Layers produced by hot stamping should be completely checked by ultrasound devices. Orig. art. has: 5 figures.

SUB CODE: 13 / SUBM DATE: none / ORIG REF: 011

Card 2/2 a/s

Card 1/1

UDC: 620.179.16

CIA-RDP86-00513R00072202000

KHIMCHENKO, I. and others.

All-Union Communist Party (Bolshevik) - Party Work

"Team-work between insurance activist units and physicians," V pom. profaktivu 13, No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, May 1952, Unclassified.

CHUMAKOV, Yu.I.; MARTYNOVA, E.N.; ZINOV'YEVA, L.M.; KHMCHENKO, T.V.

2,6-Dialkoxy-3-(1'-alkoxyalkyl)tetrahydropyrans and alkyl pyridines
based on them. Zhur. ob. khim. 34 no.10:3511 O '64.

1. Kiyevskiy politekhnicheskij institut.

(MIRA 17:11)

KHIMCHENKO, V.A., inzh.

Filter protection for high-voltage electric equipment in mines.
Ugol'.prom. no.4:58-60 J1-Ag '62. (MIRA 15:8)

1. Donetskij nauchno-issledovatel'skiy ugol'nyy institut.
(Electricity in mining)

BOLDYREV, V.I.; KHMCHENKO, V.A., starshiy nauchnyy sotrudnik

Selecting an overcurrent protection system for mine transformers.
Bezop. truda v prom. 8 no.10:40-41 O '64.

(MIRA 17:11)

1. Nachal'nik laboratorii Makeyevskogo nauchno-issledovatel'skogo instituta po bezopasnosti truda v gornoy promyshlennosti (for Boldyrev).
2. Donetskiiy nauchno-issledovatel'skiy ugol'nyy institut (for Khimchenko).

KAPUSTKINA, T.V.; MENDLIN, M.S.; NIKITENKO, A.A.; SANNIKOVA, L.K.;
KHIMCHENKO, V.F. (Ruheznoye)

Hygienic working conditions and workers' health in the production
of phthalic anhydride. Gig.truda i prof.zab. 3 no.1:28-31 Ja-F '59.
(MIRA 12:2)

1. Rabochaya poliklinika pri khimkombinate.
(PHTHALIC ANHYDRIDE)

L 11159-65 EWP(s)/EPA(s)-2/EPF(m)/EPT(c)/EPT(n)-2/EPR/EPF(w)-2/EPF(j)/T/EPF(b)
 PC-L/PR-L/PS-L/PT-L/Pu-L/Pab-L AFWL/SSD/AEDC(a)/ASD(b)-3 WW/RM/WH
 ACCESSION NR: AP4046892 S/0191.64/000/010/0003/0005

AUTHOR: Natanson, E. M.; Khimchenko, Yu. I.; Kharitinich, N. Ye.; Ul'berg, Z. R.

TITLE: Thermal oxidative degradation of metallic polymers based on polystyrene

SOURCE: Plasticheskiye massy*, no. 10, 1964, 3-5

TOPIC TAGS: thermal oxidative degradation, oxidative degradation temperature, differential thermal analysis, thermal stability, metal polymer, manganese, bismuth, thermogram, surface interaction, chemisorption

ABSTRACT: The presumably inhibiting effect of highly dispersed manganese and bismuth on the thermal oxidative degradation of polystyrene was investigated by differential thermal analysis, using a photo-recording pyrometer. Half-gram batches were used for samples. The construction of the apparatus is schematically presented. A uniform heat supply was achieved by means of a voltage regulator. With this apparatus, it is possible to obtain thermograms of the investigated polymers in a vacuum, in an inert atmosphere, and in air. Aluminum

L 14459-65

ACCESSION NR: AP4046892

oxide¹⁶ roasted to 1000C was used as a standard. Measurements were made in the interval 20—500C at a heating rate of 10C/min, and the products of the interaction of highly dispersed manganese and bismuth particles with polystyrene macromolecules were investigated at the moment of their formation. The molecular weights and yields of the products were determined. Thermographic results showed the dependence of the oxidative degradation temperature of polystyrene on its content of highly dispersed manganese and bismuth. From 0.6 to 1.5% manganese or bismuth increased the oxidative degradation temperature from 280—285C to 329—337C. The effect of these highly dispersed metals is explained by the interaction between the surface of their particles and the isolated monomer units of polystyrene macromolecules. The chemisorption of free macroradicals on the surface of bismuth and manganese particles leads to a more uniform distribution of metal particles in polystyrene.¹⁵ Homogeneous biphasic systems called metal polymers are formed. The increase in the oxidative degradation temperature is due to the decreased mobility of polystyrene macromolecules caused by their interaction with metal. Orig. art. has: 5 figures and 1 table.

Card 2/3

L 11459-65
ACCESSION NR: AP4046892

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: 00, MT

NO REF SOV: 002

OTHER: 010

Card 3/3

UL'BERG, Z.R.; KHIMCHENKO, Yu.I.; SHVETS, T.M. [Shvets', T.M.]

Metallized polymers on the basis of colloidal lead. Dop. AN
URSR no.11:1486-1489 165.

(MIRA 18:12)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.

L 52722-65 EPA(s)-2/EWT(m)/EPF(c)/EWG(m)/EPA(w)-2/ENF(j)/T Fc-4/Pab-10/
EPA/WW/IZ

ACCESSION NR: AP5014527

UP/0060/65/027/003/0412/0416

Author: Natanson, E. M.; Chernogorenko, V. B.; Khimchenko, Yu. I.; Anistratenko

Interaction of macromolecules of natural rubber and isobutylene with
particles of nickel and cobalt as they are formed at the cathode

Kolloidnyy zhurnal, v. 27, no. 3, 1965, 412-416

TOPIC TAGS: metallopolymer, natural rubber, isobutylene, colloidal nickel,
colloidal cobalt, semiconductor, organic semiconductor

ABSTRACT: New "metallopolymers," interaction products of natural rubber and poly-
isobutylene with colloidal nickel and cobalt in a two-layer electrolytic bath, were
prepared under optimum preparative conditions determined, and their properties
studied. The products were black materials, rubber-like at low metal content and
brittle at above 60% metal. With regard to electrical conductivity, the products
acted as insulators at low metal concentrations, and good-metal conductors at high
metal concentrations. Swelling tests showed that water adsorbed di-

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ACCESSION NR: AP5014527

rectly on the surface of colloidal metal particles did not swell, which apparently indicates the high strength of the bond. IR spectra of such rubber, however, did differ from IR spectra of nonfilled rubber. The experimental results are in terms of the formation of various types of structure. See table and 3 figures. [SM]

ASSOCIATION: Institut obshchey i neorganicheskoy khimii, AN UkrSSR, Kiev (Institute of General and Inorganic Chemistry, AN UkrSSR)

SUBMITTED: 02Aug63

ENCL: 00

SUB CODE: 00, IC

NO REF SOV: 009

OTHER: 000

ATD PRESS: 4011

892
Card 2/2

L 62474-65

ENT(m)/EFF(c)/EMP(j)/T/EMP(t)/EMP(b) IJP(c) JD/WW/RM

ACCESSION NR: AP5020229

UR/0069/65/027/004/0573/0577
541.66.092.2/.4

AUTHOR: Natanson, E. M.; Khimchenko, Yu. I.; Ul'berg, Z. R.; Khari-
tinich, N. Ye.

TITLE: The effect of colloidal lead on the thermooxidative degrada-
tion of polystyrene

SOURCE: Kolloidnyy zhurnal, v. 27, no. 4, 1965, 573-577

TOPIC TAGS: polystyrene, thermal degradation, thermal stability,
heat resistant polymer, organometallic polymer

ABSTRACT: The purpose of this work was to show the relationship be-
tween the content of colloidal metal particles in a polymer and its
oxidative degradation temperature. Colloidal lead was introduced
into polystyrene to the extent of 4.5 to 45.53% by two-phase elec-
trolysis, using a rotating cathode. Colloidal lead from the lead
formate bottom phase was introduced into the top phase consisting of
a 2% solution of polystyrene in toluene, containing 0.3% oleic acid.
The dispersed phase was caused to coagulate from the toluene solution

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ACCESSION NR: AP5020229

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by the addition of a 2-3-fold excess of methanol. The coagulated product was dried under vacuum for 20 hr at 80C and then subjected to differential thermal analysis. It was shown that increasing content of colloidal lead in polystyrene results in progressively rising temperatures of oxidative degradation. The view of some authors that the presence of fillers leads to lower softening temperatures of polymers is applicable only to systems in which there is no firm bonding between the macromolecules of the polymer and the surface of the filler particles. In the polystyrene-colloidal lead system, on the other hand, a strong molecular lattice interspersed with colloidal lead particles is formed. Polystyrene macromolecules are less mobile, with noticeable effect on the softening temperature and the kinetics of oxidative degradation. An additional explanation of the observed effect lies in the assumption that the colloidal particles promote the decompositions of hydroperoxides formed in the course of oxidative degradation. Orig. art. has: 5 figures and tables.

[VS]

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN UkrSSR, Kiev
(Institute of General and Inorganic Chemistry, AN UkrSSR)

L 62474-65

ACCESSION NR: AP5020229

SUBMITTED: 25 Oct 63

NO REF SOV: 003

ENCL: 00

OTHER: 002

SUB CODE: HT, OC

ATD PRESS: 4072

Card

3/3

L 22533-65 EWT(m)/EFF(c)/EPA(w)-2/EWT(j)/T Pc-4/Pab-10/T-L RM/RWH/WW

ACCESSION NR: AP4047950

S/0020/64/158/005/1162/1165

AUTHOR: Natanson, E. M.; Khimchenko, Yu. I.; Shvets, I. M.

TITLE: The mechanism of the reaction of polymers with colloidal metal particles at the moment of their formation on the cathode

SOURCE: AN SSSR, Doklady*, v. 158, no. 5, 1964, 1162-1165

TOPIC TAGS: natural rubber, polyisobutylene, carboxylate rubber, epoxy resin, colloidal iron, polymer colloidal metal reaction, IR spectrum

ABSTRACT: The reaction of polyisobutylene¹⁵, natural rubber¹⁵, carboxylate rubber¹⁵ and epoxy resin¹⁵ with colloidal iron particles at the instant of their formation on the cathode is investigated in order to explain the mechanism of the interaction of the polymer with the active surface of the metal particles. IR spectra of the reaction products of polyisobutylene or natural rubber with colloidal iron obtained electrolytically in the presence of oleic acid were the same as spectra of films of the pure polymers, indicating the macromolecules did not contact direct-

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L 22533-65

ACCESSION NR: AP4047950

ly with the surface of the colloidal metal particles but reacted with the oleic acid adsorbed on this surface. In the case of carboxylate rubber and of the epoxy resin the C=O and $\text{CH}_2\text{-CH}$ groups decreased as the colloidal iron concentration increas-

ed, indicating reaction similar to chemisorption of the polar fixing group with the colloidal particle surface. These results were confirmed by desorption studies of the polymer-colloidal iron reaction products. polyisobutylene and natural rubber were reversibly adsorbed while the carboxylate rubber and the epoxy were irreversibly adsorbed on the iron particle surface. Orig. art. has: 4 figures

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk UkrSSR
(Institute of General and Inorganic Chemistry, Academy of Sciences, UkrSSR)

SUBMITTED: 28Apr64

ENCL: 00

SUB CODE: MT, GC

NO REF SOV: 005

OTHER: 000

Card 2/2

L 14490-66 EWP(e)/ENT(m)/ETC(F)/ENG(m)/EMP(j)/T/EMP(z)/EMP(b)/ETC(m)-6
 ACC NR: AT6006252 (A) IJP(c) SOURCE CODE: UR/0000/65/000/000/0119/0124
 DS/JD/WW/DJ/GS/RM 48
 43
 B+1
 AUTHOR: Natanson, E. M.; Khimchenko, Yu. I.; Ul'berg, Z. R.
 ORG: Institute of General and Inorganic Chemistry, AN UkrSSR, Kiev (Institut obshchey
 i neorganicheskoy khimii AN UkrSSR)
 TITLE: Curing of epoxy resins with colloidal lead 15
 SOURCE: AN UkrSSR. Modifikatsiya svoystv polimerov i polimernykh materialov
 (Modification of the properties of polymers and polymeric materials). Kiev,
 Naukova dumka, 1965, 119-124
 TOPIC TAGS: epoxy resin, colloidal lead, curing organic semiconductor, antifriction
 material, shielding material
 ABSTRACT: A study has been made of the curing of ED-5 epoxy-bisphenol A resin
 with colloidal lead. Colloidal lead particles were formed in the resin by two
 methods developed by the authors: 1) electrolysis of aqueous solutions of lead
 formate in the presence of toluene solutions of the resin, and 2) thermal de-
 composition of lead formate in the resin. Interaction of polar epoxy groups with
 active centers on the fresh surface of colloidal lead results in the formation of
 two-phase homogenized, stably aggregated systems. The preparation of systems
 containing 14 parts by weight of lead by the electrolytic method (1) or 2 to 5%
 lead by the thermal method (2) are briefly described in the source. Heating of the
 Card 1/2

2

L 14490-66

ACC NR: AT6006252

systems to about 210C causes curing of the resins. Epoxy resins cured with colloidal
lead can find widespread application as antifriction current conductive, and γ-radia-
tion shielding materials. Orig. art. has: 4 figures 5 [80]

SUB CODE: 11/ SUBM DATE: 06Oct65/ ORIG REF: 004/ OTH REF: 004/ ATD PRESS:
07/ 4199

CC
Card 2/2

L-23193-66 ~~DT(m)/EMP(j)/T/EMP(t)/ETC(m)-6~~ IJF(c) JD/WW/RM
ACC NR: AP6009492

UR/0020/66/167/001/0128/0131

AUTHOR: Natanson, E.H.; Khimchenko, Yu.I.; Kompaniyets, V.A.

ORG: Institute of General and Inorganic Chemistry, AN UkrSSR (Institut obshchey i neorganicheskoy khimii AN UkrSSR)

TITLE: Metallopolymers based on epoxy resins and colloid copper

SOURCE: AN SSSR. Doklady, v.167, no.1, 1966, 128-131

TOPIC TAGS: polymer chemistry, epoxy plastic, copper compound

ABSTRACT: The starting materials for the experiments were copper formate and ED-5 epoxy resin, in compositions with 5, 10, 20, 30, 40, and 50% copper (calculated as metallic copper). It was established that decomposition of the copper formate occurs at a temperature of 186-190°. The article gives thermograms with differential curves for epoxy resin with different copper contents. At a temperature of 190° (the decomposition temperature of copper formate) there is a well marked exothermic effect, the intensity of which increases with the copper concentration. It was established that the reinforcing of an epoxy resin with colloid copper is accompanied by a decrease in the content of epoxy groups. Thus, the residual content of epoxy groups in the sample with 30% copper,

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UDO: 54-126 + 678.643'42'5

L 23193-66

ACC NR: AP6009492

after heating for 2 hours at 210°, was 16% of the original content. The interreaction of an epoxy resin with colloid copper can lead to the formation of the corresponding macromolecules. Experiments were carried out to explore the possibility of using the method of electron paramagnetic resonance to study the reactions of epoxy resin with colloid copper particles at the moment of their formation, by the thermal method. The investigations were made on a PE1301 apparatus in the temperature interval from 20 to 300°. Based on the results of these experiments, the article gives curves showing the change in the concentration of the radicals formed as a function of temperature, and the kinetics of the formation of the radicals at 230°. Orig. art. has: 3 figures.

SUB CODE: 07/ SUBM DATE: 09Jun 65/ ORIG REF: 006/ OTH REF: 005

Card

2/2 BK

ACC NR: AP6013882

(A)

SOURCE CODE: UR/0073/65/031/011/1164/1167

AUTHOR: Khimchenko, Yu. I.; Ul'berg, Z. R.; Prikhod'ko, G. P.; Ivanova, Ye. I.;
Kabakchi, A. M.; Meleshevich, A. P.; Natanson, E. M.

ORG: Institute of Physical Chemistry im. L. V. Pisarzhevskiy, AN UkrSSR (Institut
fizicheskoy khimii AN UkrSSR)

TITLE: Effect of gamma irradiation on the structure of epoxy resin and metallopolymers based on epoxy resin

SOURCE: Ukrainskiy khimicheskii zhurnal, v. 31, no. 11, 1965, 1164-1167

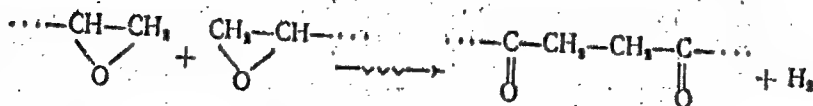
TOPIC TAGS: gamma irradiation, irradiation effect, epoxy plastic, metallopolymer material, IR spectroscopy, resin

ABSTRACT: Infrared spectroscopy in the range of $600-2000\text{ cm}^{-1}$ was used to determine the effect of Co^{60} gamma radiation on ED-5¹ epoxy-diane resins and on metallopolymer from these resins containing 1 and 6% copper and 5% lead. In the resins, a new band (corresponding to carbonyl groups) was found at about 1720 cm^{-1} which increased substantially in intensity as the irradiation was continued. At the same time, the integral intensity of the 915 cm^{-1} band decreased. This is thought to be due to the opening of epoxy rings with the formation of carbonyl groups:

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UDC: 621.039.55

ACC NR: AP6013882



A dose of $4 \cdot 10^{18}$ rad was found to decrease the content of epoxy groups by 23-25% in the ED-5 resin. Introduction of colloidal copper and lead leads to a greater reduction in the number of epoxy groups (40% for 1% copper, 55% for 6% copper, and 60% for 5% lead). This suggests that during the irradiation, the colloidal metals cause an increase in molecular weight at the expense of the opening of epoxy rings. Orig. art. has: 3 figures.

SUB CODE: 07,11/ SUBM DATE: 30Jun64/ ORIG REF: 005

Catd: 2/2/76P

L 37642-66 EWT(m)/EWP(v)/EWP(j)/T IJP(c) DS/WW/RM

ACC NR: AP6017100 (A)

SOURCE CODE: UR/0226/66/000/001/0029/0034

AUTHORS: Natanson, E. M.; Khimchenko, Yu. I.; Ul'berg, Z. R.; Shveta, T. M. 49 B

ORG: Institute of General and Inorganic Chemistry AN UkrSSR (Institute obshchey i neorganicheskoy khimii AN UkrSSR)

TITLE: Organometallic polymers based on epoxy-dian resin ED-5 and colloidal lead

SOURCE: Poroshkovaya metallurgiya, no. 1, 1966, 29-33

TOPIC TAGS: organometallic compound, adhesive, organic synthetic process, electrochemistry, epoxy resin, epoxy plastic/ED-5 epoxy resin

ABSTRACT: The conditions for and the mechanism of interaction of colloidal lead (I) and epoxy-dian resin ED-5 (II) to form organometallic polymers were studied. It was established in a previous work by E. M. Natanson, Yu. I. Khimchenko, and T. M. Shvets (DAN SSSR(v pechat)) that the adhesive power of the epoxy resin is directly related to the number of epoxy rings which open upon reacting with the metal. Organometallic polymers were obtained by the electrolytic method described by E. M. Natanson (Kolloidnyye metally, Izd-vo AN UkrSSR, K., 1959). The effect of the current density, concentration of the electrolyte and the polymer, temperature, and speed of the cathode rotation upon the composition of organometallic polymers was investigated. It was established by means of infrared spectroscopy that the polar groups of II react with the surface particles of I at the instant of their appearance

Card 1/2

SUB CODE: 07/

SUBM DATE: 26Oct65/

ORIG REF: 003/

OTH REF: 004

Card 2/2

vmb

KHIMCHENKOV, A.A.

Cableway. Der. prom. 13 no.6:27-28 Je '64.

(MIRA 17:6)

KHIMCHENKOV, A.A.

Machine for joining bottom boards of casks. Der. prom. 12 no.1:23
Ja '63. (MIRA 16:5)

(Barrels)

KHIMCHENKOV, A.A.

Light-dark device instead of a pattern. Der. prom. 12 no.7:
30 J1 '63. (MIRA 16:8)

1. Kaliningradskiy bondarno-tarnyy zavod.
(Barrels)

KLIMEK, M

SCIENCE

Periodicals: BIOLOGIA Vol. 10, no. 6, 1955

KLIMEK, M.: SIMKOVIC, D.: SPACKOVA, J.: Use of extract from a human placenta in cultivation in vitro. I Cultivation of chicken fibroblasts in a medium containing an extract from of placenta. p. 754.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 5,
May 1959, Unclass.

KLIMEC, M.

CZECHOSLOVAKIA / General Problems of Pathology.
Immunity.

U

Abs Jour: Ref Zhur-Biol., No 9, 1958, 41864.

Author : Oravec, G., Holoubek, V., Kovarova, V., Klimec, M.,
Bazany, M.

Inst : Not given.

Title : The Properdin System in a Tumorous Disease. IV.
The Level of Properdin in Guinea Pigs Treated
with Cortisone, X-rays and with Herpes Virus.

Orig Pub: Neoplasma, 1957, 4, No 1, 7-9.

Abstract: The investigations were conducted in connection
with the effectiveness of experiments on hetero-
transplantation of tumors with application of cor-
tistone and X-ray irradiation. Guinea pigs were
injected, for a period of 5 days, with 2.5 mg of
cortisone acetate intra-abdominally, or were once
irradiated with 600 r, or were infected intrader-

Card 1/2

THURZO, Viliam, MUDr.; ŠLAŠEYCIUSOVA, Maria, MUDr; KLIMEK, Milos, MUDr.;
KOVAROVA, Valeria, MUDr

New filtrable fowl tumor. Cesk.onkol. 1 no.3-4:230-234 1954.

1. Issledovatel'skii institut Onkologii, Bratislava, ul. Cs.
armady 17.

(NEOPLASMS, experimental,
myxosarcoma, filtrable in fowl)
(MYXOSARCOMA, experimental,
filtrable in fowl)

SLIMEX, 19

Chemical Abst.

Vol. 48 No. 6

Mar. 25, 1954

Pharmaceuticals, Cosmetics, Perfumes

The combination of berberine with the nuclear structures.
Miroslav Klimmek and Vladimír Dráhl (Masaryk Univ., Brno).
Czechoslov. Biol. 2, 63-7 (1953).—The reactions between
berberine and nuclear components were studied by means of
paper electrophoresis and of polarography. Methyl green,
pyronine, or bromophenol blue served as indicators of the
movement of berberine both alone and in combination with
deoxyribonucleic acid (DNA), pentose nucleic acid, pro-
teins, and protamines. Since only DNA changed the di-
rection of travel of berberine (toward the anode), it was
concluded that berberine reacts merely with this compd.
(its lower polymers).
Cidrích Sebek

③ nuc Sci

8

6-16-54

MM

KLIMEK, M.; DRASIL, V.

On the binding of berberine with nuclear structures. Chekh.biol.
2 no.2:97-101 Ap '53. (MLRA 7:2)

1. Institut obshchey biologii meditsinskogo fakul'teta universi-
teta im. Masarika, Brno. (Berberine)

KLIMEK, Miroslav; SIMKOVIC, Dusan

Amitotic division. Cesk. biol. 4 no.10:607-612 Nov 55.

1. Vyzkumny ustav onkologicky, Bratislava.
(CELL DIVISION,
amitotic)

KLIMEK, M.; HRSTKA, V.; BUCKO, A.

24-Hour radioiodine test of the effect of diet on iodine accumulation in the thyroid. Cesk. gastroenter. 11 no.5:325-328 5 Sept 57.

1. Ustav pre vyskum vyzivy ludu v Bratislave, riaditel Dr. A. Bucko
Vyskumny ustav onkologicky v Bratislave, riaditel clen koresp. SAV Dr.
V. Thurzo, M. K. ul. Ceskoslovenskej armady 17.

(THYROID GLAND, metab.

iodine accumulation, eff. of diet in rats, 24-hour radioiodine
determ. (Cz))

(IODINE, metab.

accumulation in thyroid, eff. of diet in rats, 24-hour radio-
iodine determ. (Cz))

Klimek, Miroš
EXCERPTA MEDICA SEC 5 Vol 12/6 Gen. Path. June 59

1310. INFLUENCING THE GROWTH OF B5 TUMOUR IN RATS FED ON
VARIED DIET - Klimek M. and Hrstka V. Dept. of Biochem. On-
col. Res. Inst., Bratislava - NEOPLASMA 1958, 5/2 (111-113) Graphs 1
Tables 5

Three groups of rats were fed on a control diet (17% protein, 5% fats and 78% car-
bohydrate), a diet with high (47% protein and low (30%) carbohydrate and one with
low (7%) protein and 71% carbohydrate for 5 weeks previous to inoculation with
standardized tumour emulsion. No inhibition of tumour take was observed but the
growth of the tumour was slightly slower in the high-protein diet and much slower
in the low-protein diet. The resultant size of tumour in the low-protein group was
much smaller than in the controls and the survival of the animals was significantly
longer.
Woodhouse - Birmingham (V. 16)

KLIMEK Miroš

EXCERPTA MEDICA Sec 16 Vol 7/11 Cancer November 59

4622. The influence of protein content in the diet on radiosensitivity of the BS tumour in rats KLIMEK M. Oncol. Res. Inst., Bratislava Neoplasma 1959, 6/1 (10-15) Graphs 3 Tables 1

Radiosensitivity of the BS rat tumour, irradiated locally, was compared in 2 groups of rats, of which one, beginning with the 14th day after implantation of the tumour, was given a low-protein diet, containing 7.3 calory % proteins, and the other a middle-protein diet, containing 16.9 calory % proteins. Calories were compensated for by carbohydrates. In rats fed a low-protein diet the effect of irradiation (total dose 10,500 r., in 6 fractions) was considerably smaller than in rats receiving a middle-protein diet; in most of the latter animals, regression occurred, followed in 2 instances by renewed growth. In rats kept on a medium-protein diet the effect of irradiation was greater, even when the total dose applied was only 8,500 r. The explanation of these findings is discussed.

EXCERPTA MEDICA Sec 2 Vol 12/11 Physiology Nov 59

5056. THE INFLUENCE OF DEOXYRIBONUCLEIC ACID ON ULTRAVIOLET AND VISIBLE LIGHT ABSORPTION OF BERBERINE - Kilmek M. and Hnilic L. Oncol. Res. Inst., Bratislava - ARCH. BIOCHEM. 1959, 81/1 (105-110) Graphs 3 Tables 2

Extinction of DNA-berberine mixtures in the range of wavelengths from 2300 to 5000 Å. has been measured and compared to the extinction values of the single components. Upon mixing berberine with a DNA solution, the maximum of berberine at 3475 Å. shifts to 3500 Å. and the height of the extinction maximum markedly diminishes. This diminution is dependent upon the DNA concentration used. It is, however, also dependent on the degree of polymerization of the DNA used, when the concentration remains unchanged. Similar but less pronounced changes also occur in the region of the extinction maximum of berberine at 4250 Å., which shifts to 4300 Å. upon mixing with DNA. These spectral changes are believed to indicate an interaction between DNA and berberine.

KHIMENKO, G.I. (Prof.); RICHENKO, N.I. (Cand. of Med. Sci.); DUBINSKAYA, Ye. A.
(Cand. of Med. Sci.)

"Treatment of Adult Dysentery With Biomycin,"

p. 315 Ministry of Health USSR Proceedings of the Second All-Union Conference on Antibiotics, 31 May - 9 June 1957. p. 405, Moscow, Medgiz, 1957.

Khimenko G.S.

INDEX 2 BOOK DESCRIPTION 809/2007

Polymers and their alloys (from Plastics Collection of Academic Moscow, Gorky, 1960. 182 p. Kireva also inserted. 5,050 copies printed.

Ed.: A.A. Kuznetsov, Candidate of Technical Sciences, V.V. Pavlov, and N.Ye. Boroditskiy; Head of Ed.: A.A. Kuznetsov, Engineer Ed.: Publishing House: I.A. Sverdlov; Tech. Ed.: V.I. Oreshkin.

REMARKS: This book is intended for engineers and technicians planning and manufacturing products and structures with lightweight fillers, and for workers of the foam plastic industry.

CONTENTS: The volume contains 13 studies on foam plastics and foaming agents. Some of the studies provide data on the technology of producing foam plastics from polyurethanes and polyvinyl chloride, and data on thermosetting polymers (epoxy resin composites, polyurethane foam, polypropylene foam, and foam plastic sheets based on organic silicon resins). Other studies contain data on the composition of foam plastics, the effect of technological factors and volumetric weight on the physical, mechanical, and dielectric properties of foam plastics, and on the fields of application of foam plastics. Several studies deal with the production technology of rubbers and plastics for antenna installations in aircraft walls. It is stated in the foreword that the Soviet Union produces and uses foam plastic sheets based on thermoplastic and thermosetting polymers of rigid, elastic, tough, and porous structure. These materials are used in the form of their specifications and application instructions. It is stated that some of their authors and other authoritative institutions including A.A. Borila, the author of the book, have been working on the development of lightweight plastics (production of production of Gas Filled Plastics and Elastomers) published by the publisher in 1974.

Edwards, O.S., J.L. Jones, E.L. Thompson, E.F. Gorky, and G.M. Smolensky. Application of the dielectric properties of polymers in the manufacture of antenna devices. 109

Edwards, O.S., J.L. Jones, E.L. Thompson, E.F. Gorky, and G.M. Smolensky. Application of the dielectric properties of polymers in the manufacture of antenna devices. 109

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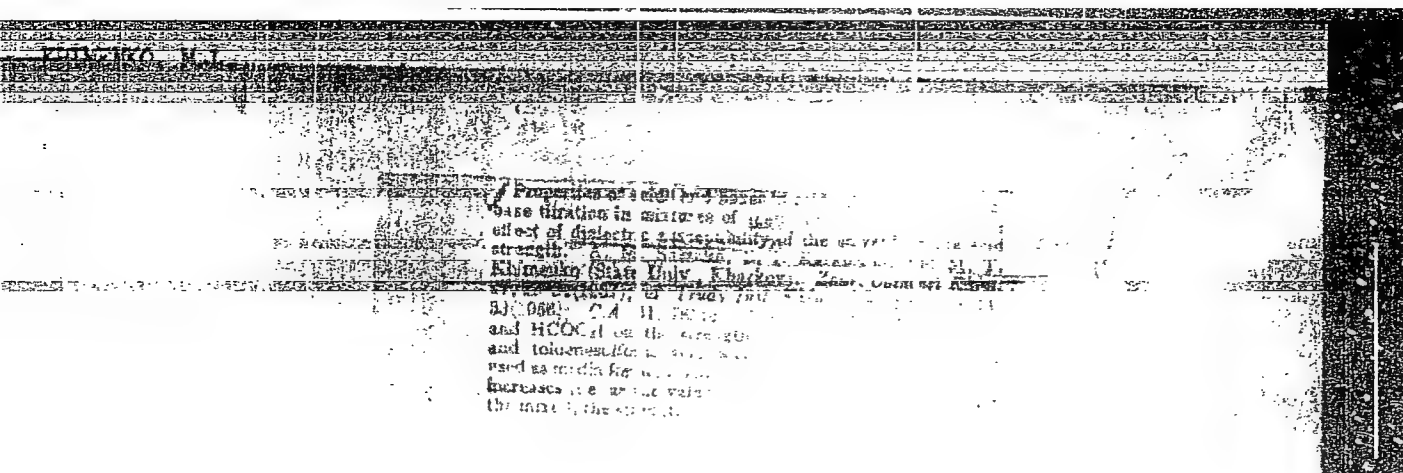
KHIMENKO, I. S.

BER:ER, Iosif Noyekhovich; DUBONOS, Nikolay Paddyevich; KORZHENEVSKIY, I.I.,
kand.ekon.nauk; KHIMENKO, I.S.; LYUDSKOV, B.P., red.; SYDAK, D.M.,
tekh.n.red.

[Planning economic activities of commercial organizations]
Planirovanie khosiaistvennoi deiatel'nosti torgovoi organizatsii.
Moskva, Gos. izd-vo torgovoi lit-ry, 1957. 148 p. (MIRA 11:4)
(Russia--Commerce)

KHIMENKO, L. P. Cand Med Sci -- (diss) "On the problem of ^{the} pre-hypertonic state#." Khar'kov, 1957. 12 pp with graphs (Khar'kov Med Inst). (KL, 3-58, 100)

-64-



"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000722020003-5

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000722020003-5"

IZMAYLOV, N.A. [deceased]; KHURCHENKO, M.T.

Concentration dependence of the refraction of acids in various solvents. Part 1: Carboxylic acids. Ukr. khim. zhur. 30 no.12: 1266-1274 '64 (MIRA 18:2)

1. Khar'kovskiy gosudarstvennyy universitet im. A.M. Gor'kogo.

KOPAN', V.S.; KHIMENKO, M.V.

Slip formation in a gold microwire. Ukr.fiz.zhur. 10 no.10:
1154-1157 0 '65. (MIRA 19#1)

1. Kiyevskiy gosudarstvennyy universitet im. Shevchenko.
Submitted June 14, 1965.

TEODOROVICH, E.V. [translator]; ~~KHIMENKOV~~, Yu.V. [translator]; BRODSKIY, A.M., red.; LARIN, S.I., red.; POTAPENKOV, Ye.V., tekhn.red.

[New method in the theory of strong interactions; double dispersion representations] Novyi metod v teorii sil'nykh vzaimodeistvii; dvoynye dispersionnyye predstavleniya. Sbornik statei. Moskva, Izd-vo inostr.lit-ry, 1960. 358 p. Translated from the English. (MIRA 14:4)

(Nuclear reactions)

KHIMERIK, O.V.; DONS'KOY, Ya., redaktor; LAINIY, Yu., tekhnicheskii redaktor.

[On a sharp rise] Na krutomu pidnesenni. [Kharkiv] Kharkivd'ke knyzhkovo-gazetne vyd-vo, 1954. 65 p. (MLRA 8:2)

1. Starehiy mayster Kharkivs'koi 1-oj derzhavnoi panchishnoi fabriki (for Khimerik).
(Kharkov--Hosiery industry)

~~KHIMERIK, Yuriy Andreyevich; CHEKHOVOY, N., vedushchiy redaktor; PATSALYUK, P.~~
~~tekhnicheskiiy redaktor.~~

[Hydraulic engineering installations; planning and calculation]
Gidrotekhnicheskie sooruzhenia; proektirovanie i raschet. Kiev,
Gos. izd-vo tekhn. lit-ry USSR, 1957. 190 p. (MIRA 10:4)
(Hydraulic engineering)

KHIMENIK, Yu. A., kand. tekhn. nauk

Operation of irrigation canals and hydraulic installations.

Mekh. sil' hosp. 9 no. 6:22-23 Ja '58.

(MIRA 11:7)

(Hydraulic engineering)

(Irrigation canals and flumes)

KHIMERIK, Yuriy Andreyevich, dots., kand. tekhn. nauk; ORLIK, Ye.L.,
red.; OKOPNAYA, Ye.D., tekhn. red.

[Design of hydraulic structures] Proektirovanie i raschet gidro-
tekhnicheskikh sooruzhenii. Kiev, Izd-vo Kievskogo univ., 1961.
362 p. (MIRA 15:2)

(Hydraulic structures)

KHIMERIK, Yu.F.; LOZOVSKIY, Z.P.

Calibration stand for electron-tube voltmeters. Avtom. 1 ser. no. 2
69-71 Ap-Je '65. (MIRA 18:7)

KHILERIN, Dmitriy Georgiyeovich

Razvitiye energetiki SSSR. Moskva, Gosenergoizdat, 1960.
326 p. illus., diagrs., graphs, tables.
Bibliography: p. 324-325.

KHIMICH, A.M.; CHISTIK, V.P.

Automatic machine for welding girth joints in carbon dioxide.
Avtom. avar. 16 no.4:65-66 Ap '63. (MIRA 16:4)

1. Zaporozhskiy transformatornyy zavod.
(Electric welding—Equipment and supplies) (Protective atmosphere)

KHIMICH, B.P.

Drift of ships led by the ice-breaking vessel "Admiral Makarov"
through Long Strait in 1956. Probl.Arkt. no.6:121-124 '59.
(Long Strait--Ice) (MIRA 13:6)

UKOLOVA, M.A.; KHIMICH, G.G.

Permanent magnet influences the growth of sarcoma. Nauka i
zhizn' 28 no.7:84, J1 '61. (MIRA 14:8)

1. Institut rentgenologii, radiologii i onkologii, Rostov-na-Donu.
(Magnetism--Physiological effect)

KHIMICH, G. L., Eng.

"Mechanization & Automation of Rolling Mills" p. 454-462 in book
Increasing the Quality and Efficiency of Machinery, Moscow, Mashgiz, 1957,
626pp.

KHIMICH, G.L., inzh., red.; DUGINA, N.A., tekhn.red.

[Design of metalworking equipment; collection of articles]
Konstruirovaniye metallurgicheskogo oborudovaniya; sbornik
statei. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.
lit-ry. No.1. 1958. 234 p. (MIRA 12:8)

1. Ural'skiy mashinostroitel'nyy zavod, Sverdlovsk.
(Metalworking machinery)

KHIMICH, G.L.

Twenty-five years of designing metallurgical equipment at the Ural
Machinery Plant. Sbor.st.UZTM no.1:3-12 ' 58. (MIRA 11:12)
(Sverdlovsk--Machinery industry) (Metalworking machinery)
(Rolling mills).

SMIRNITSKIY, Yevgeniy Konstantinovich; KHIMICH, G.L., inzh., retsenzent;
PINTUSOV, I.M., inzh., red.; DUGINA, N.A., tekhn.red.

[Economic efficiency of new machinery designs] Ekonomicheskaya
effektivnost' novykh konstruktssii. Moskva, Gos.nauchno-tekhn.
izd-vo mashinostr.lit-ry, 1959. 150 p. (MIRA 12:10)
(Machinery--Design)

KHIMICH, G., Geroy Sotsialisticheskogo Truda

The main trend of technological development. MTO no.9:7-8
S '59. (MIRA 13:1)

1. Glavnyy konstruktor Uralmashzavoda.
(Sverdlovsk--Technological innovations)

KHIMICH, G.L.; KORYAKIN, K.V.

Use of reinforced concrete in the construction of rolling mills.

Prokat. proizv. no.2:139-146 '60.

(MIRA 14:11)

(Rolling mills)

(Reinforced concrete construction)

KHIMICH, Georgiy Lukich, inzh.; GOLUBEKOV, Konstantin Alekseyevich;
KONDRATOV, Yuriy Nikolayevich; NISKOVSKIY, Vitaliy
Maksimovich; SIDELEV, Nikolay Petrovich; PAL'MOV, Ye.V.,
doktor tekhn. nauk, retsenzent; DUGINA, N.A., tekhn. red.

[Improving the quality and economic efficiency of machinery]
Povyshenie kachestva i ekonomichnosti mashin. Pod red. G.L.
Khomicha. Moskva, Mashgiz, 1962. 124 p. (MIRA 15:7)
(Machinery industry)

KHIMICH, G. L.

Doc Tech Sci - (diss) "Designing and study of high-productivity mechanical equipmentation of rolling mills." Sverdlovsk, 1961. 27 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Ural Polytechnic Inst. imeni S. M. Kirov); 150 copies; price not given; list of author's works on pp 26-27 (26 entries); (KL, 10-61 sup, 212)

SMIRNITSKIY, Yevgoniy Konstantinovich; KHIMICH, O.L., inzh., retsenzent;
DUGINA, N.A., tekhn. red.

[Increasing the economic efficiency of new machinery designs] Po-
vyshenie ekonomicheskoi effektivnosti novykhkonstruksii. Moskva,
Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1961. 157 p.

(MIRA 14:12)

(Machinery--Design)

AL'SHEVSKIY, L.Ye.; NOSAL', V.V.; KHIMICH, G.L.; GRINSHFON, M.I.

Mill for the cold rolling of pipe. Biul. TSIICHM no.3:48
'61. (MIRA 14:12)
(Pipe mills--Patents)

VYDRIN, V.N., kand.tekhn.nauk; BEREZIN, Ye.N., inzh.; KHMICH, G.L.;
TRET'YAKOV, A.V.; FEDOROV, M.I.; VASHCHENKO, Yu.I.

"Mechanical equipment of rolling mills" by A.A. Koroleva. Reviewed by V.N. Vydrin and others. Stal' 22 no.1:61-63 Ja '62.

(MIRA 14:12)

1. Chelyabinskiy politekhnicheskii institut (for Vydrin, Berezin).
 2. Nauchno-issledovatel'skiy konstruktorsko-tehnologicheskii institut tyazhelogo mashinostroyeniya Uralmashzavoda i Ural'skiy politekhnicheskii institut (for Khimich, Tret'yakov, Fedorov).
- (Rolling mills—Equipment and supplies)
(Koroleva, A.A.)

L 15578-63

EWI(d)/EWP(k)/EWP(q)/EWI(m)/BDS APPTC/ASD PF-L JD/HW

ACCESSION NR: AP3001664

3/0130/63/000/006/0022/0025

AUTHORS: Khimich, G. L.; Tret'yakov, A. V.

TITLE: Modern rolling mills and their equipment

SOURCE: Metallurg, no. 6, 1963, 22-25

TOPIC TAGS: rolling mill, mill equipment

ABSTRACT: The authors discuss the present state of the steel rolling technology and the improvements needed for fulfillment of the production plans set by the November 1962 resolution of TsK KPSS (Central Committee of the Communist Party of the USSR). Further technological development would require a wide application of automation and a mechanization of rolling mills. The following steps have been made in this direction: 1) the blooming mill 1300 was designed for a fully automatic technological process; 2) the continuous four-stand mill 1700 for cold rolling was installed in two plants (its rolling speed is up to 25 m/sec; it is partially automated); 3) endless feeding systems that deliver heated ingots to blooming and slab mills have been installed in several plants (their delivery cycles are 30-35 seconds) and production of the blooming mill was increased 25% after installation; 4) the design of a system for accurate measurement of the temperature in the rollers of a

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L 15578-63

ACCESSION NR: AP3001664

High-speed cold-rolling mill (10 m/sec) is still in the research stage. Orig. art.
has: 1 table and 2 figures.

ASSOCIATION: NIItiazimash Uralmashzavoda (Scientific Research Institute for Heavy
Machines, Ural Machine Factory)

SUBMITTED: 00

DATE ACQ: 09Jul63

ENCL: 00

SUB CODE: ML

NO REF SOV: 000

OTHER: 000

Card 2/2

L 16304-65 EWP(e)/EWT(m)/EWP(w)/ENA(d)/EWT(t)/EWP(k)/EWP(b) Pt-4 IJP(c)
 ACCESSION NR: AP4045900 MJW/JD S/0021/64/000/009/1168/1172

AUTHOR: Fedorchenko, I. M. (Academician AN UkrSSR); Draygor, D. A. (Deceased)
 Afanas'yev, V. F.; Filatova, N. O.; Khimich, G. S.; Filatova, N. A.

TITLE: Investigation of the wear of sintered powder materials in
 different gaseous media 18

SOURCE: AN UkrSSR. Dopovid, no. 9, 1964, 1168-1172 B

TOPIC TAGS: sintered powder material, iron powder material, bronze
 powder material, friction coefficient, wear 18

ABSTRACT: Sintered powder materials, two on an iron powder base and
 two on a bronze powder base, were subjected to friction and wear
 tests in air, nitrogen, argon, and helium. The counterbody was
 nitrided 1Kh18N9T [AISI 321] steel hardened to 75 HR; testing was
 done at a specific pressure of $245 \cdot 10 \text{ n/m}^2$ and a sliding speed vary-
 ing from 0.5 to 10.5 m/sec. The test results showed that the ambient
 gaseous medium has a significant bearing on the mechanism of wear,
 friction coefficient, and temperature of the friction surfaces of
 all the sintered materials tested. The friction temperature and wear

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L 16304-65

ACCESSION NR: AP4045900

were much lower in air than in gaseous nitrogen, argon, or helium. Under identical operating conditions, the wear rate of sintered iron-powder materials was appreciably higher than that of the bronze-powder materials. The value of the friction coefficient and its time-dependent changes at a constant speed were determined by the processes which occur on the friction surfaces, and which, in turn, depend on the ambient medium. At a constant sliding speed, the effect of the specific pressure on the friction coefficient is independent of the ambient gaseous medium. Orig. art. has: 3 figures.

ASSOCIATION: Institut problem materialoznavstva AN USSR [Institute of the Problems of the Science of Materials AN USSR]

SUBMITTED: 25Jan64

ENCL: 00

SUB CODE: MM

NO REF SOV: 002

OTHER: 001

Card 2/2

L 10325-67 EWP(m)/EWP(w)/EWP(t)/ETI IJP(c) DJ/JD

ACC NR AP6020919

SOURCE CODE: UR/0369/66/002/002/0209/0212

AUTHORS: Afanas'yev, V. F.; Khimich, G. S. 39

ORG: Institute for the Problems of Materials Science, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)

TITLE: Effects of low temperature, vacuum, and gaseous environment on the friction and wear of materials

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 2, 1966, 209-212

TOPIC TAGS: metal friction, friction, wear resistance

ABSTRACT: The major portion of the report represents a qualitative citing and discussion of references on the effects of temperature, vacuum, and gaseous environment on friction and wear of materials. These include L. A. Plutalova (Sb. Treniye i iznos v mashinakh, M. 1962, vyp. 15) and "Effects of Vacuum on Space Metals", Metal Age, 1962, 20, No. 1, 2. It is concluded that the work (to date) on the effects of environment on friction and wear is insufficient and inadequate because only small ranges of operating parameters have been investigated and most work has not considered the microstructure of the metal and/or oxide surface layers. The last half page of the report briefly describes a friction test apparatus which has been developed to study friction and wear in a vacuum (to 10^{-9} mm Hg) or in a controlled atmosphere (at 100--6000 rpm or 0.2--20 m/sec sliding velocity). Orig. art. has: 2 figures and 1 table.

SUB CODE: 11, 13/ SUBM DATE: 15Oct64/ ORIG REF: 006/ OTH REF: 002

Card 1/1 B.B.

KHIMICH, I. V.

S/058/61/000/010/006/100
A001/A101

AUTHORS: Lomsadze, Yu. M., Lend'yel, V. I., Krivskiy, I. Yu., Pushchich, V. I.,
Khimich, I. V., Lukin, L. P., Ernst, B. M.

TITLE: On applying modified perturbation method to interpretation of nucleon
scattering

PERIODICAL: Referativnyy zhurnal. Fizika, no. 10, 1961, 25, abstract 10A257
(V sb. "Probl. sovrem. teorii elementarn. chastits", no. 2, Uzh-
gorod, 1959, 211-216, Engl. summary)

TEXT: Differential effective cross sections for all types of NN-scatter-
ing have been determined in the first non-vanishing approximation of the modified
perturbation method (consisting in a special summation over all simplest barion
loops inserted into internal \bar{q} -meson lines of the Feynman 2nd-order graphs);
assumptions are made on existence of scalar \bar{q} -mesons and violation of charge
independence of nuclear forces at high energies. The cross sections calculated
for the range 100 - 600 Mev agree sufficiently well with experimental data.
Thereby the results of the preceding study (abstract 10A256) are additionally
substantiated. An interesting possibility is discussed that at sufficiently

Card 1/2

On applying modified perturbation ...

S/058/61/000/010/006/100
A001/A101

great coupling constant, the scattering cross section may be completely independent of its value.

[Abstracter's note: Complete translation]

Card 2/2

KRIVSKIY, I. Yu. [Kryvs'kyi, I. IU.]; LOMSDAZE, Yu.M.; FUSHCHICH, V.I.;
~~KHIMICH, I.V.~~

.Problem of theradiative decay of a π -meson. Ukr. fiz. zhur. 5
no.6:777-780 N-D '60. (MIRA 14:3)

1. Uzhgorodskiy gosudarstvennyy universitet.
(Mesons—Decay)

24.4400

S/058/62/000/004/014/160
A058/A101

AUTHORS: Krivskiy, I. Yu., Lomsadze, Yu. M., Khimich, I. V.

TITLE: Concerning the correspondence principle in the theory of the quantized "probability-amplitude field"

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 37, abstract 4A294
("Dokl. i soobshch. Uzhgorodsk. un-t. Ser. fiz.-matem. n.", 1961
no. 4, 15 - 18)

TEXT: The authors prove a theorem of equivalence between the conventional quantum-field theory and the special case of their proposed theory in which the probability-amplitude field is being quantized (RZhFiz, 1961, 8A214 - 215).

[Abstracter's note: Complete translation]

Card 1/1

24.4400

S/058/62/000/004/015/160
A058/A101

AUTHORS: Khimich, I. V., Lomsadze, Yu. M., Krivskiy, I. Yu.

TITLE: $U(x)$ - $uN(k)$ representations in quantum-field theory

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 37, abstract 4A295
("Dokl. i soobshch. Uzhgorodsk. un-t. Ser. fiz.-matem. n.", 1961,
no. 4, 25 - 27)

TEXT: The authors establish a connection between functionals in different
representations of the new strong-coupling method proposed earlier by one of the
authors (RZhFiz, 1961, 11A247). ✓B

[Abstracter's note: Complete translation]

Card 1/1

S/058/62/000/005/015/119
AC01/A101

AUTHORS: Lomsadze, Yu. M., Krivskiy, I. Yu., Khimich, I. V.

TITLE: Some aspects of the new method of "strong" coupling in the theory of quantized fields

PERIODICAL: Referativnyy zhurnal, Fizika, no. 5, 1962, 34, abstract 5A315
("Dokl. i soobshch. Uzhgorodsk. un-t. Ser. fiz.-matem. n.", 1961, no. 4, 28-32)

TEXT: The method of strong coupling suggested earlier by one of the authors (RZhFiz. 1961, 11A247) is discussed. The possibility is considered of a consequent calculation, within the framework of this method, of Green's functions, in particular, Green's function of a single particle.

[Abstracter's note: Complete translation]

Card 1/1

LOMSADZE, Yu.M.; LEND'YEL, V.I.; KRIVSKIY, I.Yu. [Kryvs'kyi, I.IU.]
KHIMICH, I.V.

Third All-Union Conference on the Theory of Elementary Particles.
Ukr.fiz.zhur. 7 no.4:448-454 Ap '62. (MIRA 15:8)
(Particles (Nuclear physics))

LOMSADZE, Yu.M., dotsent; KRIVSKIY, I.Yu.; KHIMICH, I.V.

Experimental verification of certain implications of the quantum field theory of probability amplitudes. Dokl. i soob. UzhGU. Ser. fiz.-mat. i ist. nauk no.5:8-13 '62.

(MIRA 17:9)

1. Otvetstvennyy radaktor zhurnala "Doklady i soobshcheniya Uzhgorodskogo gosudarstvennogo universiteta; seriya fiziko-matematicheskikh i istoricheskikh nauk" (for Lomsadze).

24.4400

S/185/62/007/009/002/006
D234/D308

AUTHORS: Khimich, I.V., Lomsadze, Yu.M. and Kryvs'kyy, I.Yu.
TITLE: Some physical consequences of the theory of quantized field of the probability amplitude
PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 9, 1962, 967-973

TEXT: The authors refer to their previous papers where the above theory was formulated (Doklady i soobshcheniya Uzhgorodskogo universite-ta, seriya fiz.-mat. nauk, no. 4, 15, 1961; Yu.M. Lomsadze, as above, no. 3, 11, 1960, no. 4, 9, 1961, Nucl. Phys. 36, 1962) and derive an expression connecting the probability of transition from the initial to the final state, defined by this theory, with the experimentally observed probability. It is stated that the matrix element in the new theory can be obtained with any approximation in closed form according to the perturbation method developed in the papers quoted above. The new constant I can have any value. The authors quote the expressions for the matrix element in the case

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S/185/62/007/009/002/006
D234/D308

Some physical consequences ...

of $I = 2$, in the first and second approximation. They conclude that renormalization in the new theory has no additional difficulties in comparison with the usual quantized field theory. If the errors in determining the initial momenta of the particles are sufficiently small, the effective cross section given by the new theory for any process is the same as in the usual theory, up to the second approximation (for $I = 2$). It is found that for finding I special experiments are necessary, in which the initial state of the system would contain sufficiently distant momenta. The basic ideas forming the basis of the new theory are discussed. An essential feature of the new theory is stated to be the fact that it allows any degree of accuracy in measuring the complete set of physical quantities but no absolutely exact measurement. The authors express their gratitude to Ya.A. Smorodyns'kyy, B.L. Yoffe, M.I. Podhorets'kyy and K.D. Tolstoy for discussion. 13

ASSOCIATION: Uzhhorods'kyy derzhuniversytet (Uzhhorod State University)

SUBMITTED: January 20, 1962
Card 2/2

LOMSADZE, Yu.M.; KRIVSKIY, I.Yu.; KHIMICH, I.V.

General principles of developing a theory of the quantized field
of the probability amplitude. Izv. vys. ucheb. zav.; fiz. no.4:
26-33 '63. (MIRA 16:9)

1. Uzhgorodskiy gosudarstvennyy universitet.
(Quantum field theory)

LOMSADZE, Yu.M.; KRIVSKIY, I.Yu.; KHMICH, I.V.

Physical nature of the theory of the quantized field of the probability amplitude. Izv. vys. ucheb. zav.; fiz. no.4:113-119 '63.
(MIRA 16:9)

1. Uzhgorodskiy gosudarstvennyy universitet.
(Quantum field theory) (Probabilities)

LOMSADZE, Yu.M.; KRIVSKIY, I.Yu.; KHIMICH, I.V.

Fourth All-Union Conference on the Theory of Elementary Particles.
Izv.vys.ucheb.zav.; fiz. no.3:190-191 '63. (MIRA 16:12)

1. Uzhgorodskiy gosudarstvennyy universitet.

L 17178-63

EWI(1)/EWI(m)/FCC(w)/BDS AFFTC/ASD

S/0185/63/008/005/0601/0605

ACCESSION NR: AP3000242

AUTHOR: Lomsadze, Yu. M.; Kryvs'ky, I. Yu.; Khimich, I. V.

TITLE: Fourth All-Union Conference on the Theory of Elementary Particles /held in Uzhgorod from 26 to 29 November 1962/

SOURCE: Ukrayins'kyi fizychnyy zhurnal, v. 8, no. 5, 1963, 601-605

TOPIC TAGS: elementary particle, Regge pole, quantum electrodynamics, quantum field theory, unified theory of relativity, photonuclear reaction, gravitation theory

ABSTRACT: The authors describe the proceedings of the Fourth All-Union Conference on the Theory of Elementary Particles, held in Uzhgorod on 26 to 29 November 1962, and preceded by a four-day (21 to 24 November) seminar of theoretical physicists, specialists in the field of elementary particles. At the seminar eminent specialists lectured on recent developments in the field of strong interaction, high-energy quantum electrodynamics, problems of the spatial-temporal description in the relativistic quantum theory, pseudo-Euclidean space-time at small distances,

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L 17178-63

ACCESSION NR: AF3000242

4
the unified theory of relativity. The discussion during the conference proper was concerned with such topics as Regge poles, strong interactions, weak and electromagnetic interactions, gravitation theory, the group approach to and systematization of elementary particles, and new ideas and generalizations of the quantized field theory. The conference also included a section on photonuclear reactions, a seminar to commemorate the eminent Danish physicist Niels Bohr, and a seminar on the philosophical problems of the contemporary theory of elementary particles. The proceedings of the conference are being prepared for publication.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 18 Jun 63

ENCL: 00

SUB CODE: NS, PH

NO REF SOV: 000

OTHER: 000

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